

IN THE CLAIMS:

1. (Previously presented) A shelving system comprising:
a panel having a plurality of support structures;
at least one post configured to support the panel;
each support structure including a pair of opposing beam members having an upper end, a lower end, and an intermediate wall coupling the upper and lower ends, the upper ends defining a support surface of the panel;
wherein said upper and lower ends of opposing beam members define a plurality of orifices, and a terminal end of the upper end includes a downward projection configured to provide strength and rigidity to the panel; and
wherein the plurality of support structures include at least one inner support structure having a curved configuration resulting in a non-continuous height over the length of the panel and at least one outer support structure having a continuous height over the length of the panel.
2. (Original) The shelving system of Claim 1 wherein the intermediate wall is generally vertical and approximately perpendicular to the support surface.
3. (Original) The shelving system of Claim 1 wherein the intermediate wall is generally angled relative to the support surface.
4. (Previously presented) The shelving system of Claim 1 wherein the projection is configured to provide a smoother surface without additional finishing operations after the panel is molded.
5. (Previously presented) The shelving system of Claim 1 wherein the beam members from adjacent support structures form alternating "Z"-shaped members across the width of the support structure and form a continuous support along the length of the support structure.

6. (Original) The shelving system of Claim 1 wherein the upper ends and lower ends have an increased amount of material compared to the intermediate wall.

7. (Previously presented) The shelving system of Claim 6 wherein the upper ends and lower ends have about 50% larger wall thickness than the intermediate wall, and extend out from the intermediate wall by approximately two times the intermediate wall thickness.

8. (Previously presented) The shelving system of Claim 1 wherein a height of the intermediate wall of the inner support structure varies over the length of the panel.

Claims 9 and 10 (Canceled)

11. (Previously presented) A shelving system comprising:
a panel including a plurality of support structures;
a plurality of posts configured to support the panel;
at least one support structure having a height and including a set of alternating opposed cavities defined by a pair of side walls, an upper wall, and a lower wall;

wherein a first cavity is defined by the side walls and the upper wall, and a second cavity adjacent the first cavity is defined by the side walls and the lower wall; and

wherein the upper wall includes a first aperture, the lower wall includes a second aperture, and wherein said second aperture is larger than said first aperture to maximize the support surface and minimize weight and material without reducing flexural strength.

Claim 12 (Canceled)

13. (Previously presented) The shelving system of Claim 11 wherein the panel includes three support structures disposed across the width of the panel.

14. (Previously presented) The shelving system of Claim 11 wherein the support structures have a constant height over the length of the panel.

15. (Previously presented) The shelving system of Claim 11 wherein the support structure height varies over the length of the panel such that the support structure height is reduced near an outer portion of the support structure and increased near an inner portion of the support structure.

16. (Previously presented) A shelving system comprising:

at least one panel;

a plurality of posts configured to engage sockets in the panels to support the at least one panel;

wherein each panel includes:

a set of first support structures including a pair of side walls, an upper wall, and a lower wall defining alternating oppositely disposed cavities, wherein a first cavity is defined by the side walls and the upper wall, and a second cavity adjacent the first cavity is defined by the side walls and the lower wall;

a set of second support structures including opposing beam members having an upper end, a lower end, and an intermediate wall coupling the upper and lower ends;

wherein the first and second support structures are combined to provide particular strength and rigidity characteristics; and

wherein the set of first support structures are box beams and the set of second support structures are Z-shaped beams.

Claims 17 and 18 (Canceled)

19. (Previously presented) The shelving system of Claim 16 wherein a height of the set of first support structures varies over the length of the panel.

20. (Original) The shelving system of Claim 16 wherein the first and second support structures have a curvilinear parabolic shape with a vertex approximately in the middle of the support structures.

21. (Previously Presented) The shelving system of Claim 16 wherein the support structures are spaced across the width of the panels, and the first set of support structures are located towards the outer portion of the panel and the second set of support structures are located toward the interior of the panel.

22. (Previously presented) The shelving system of Claim 16 wherein the upper wall includes a first aperture, the lower wall includes a second aperture, and the second aperture is larger than the first aperture.

23. (Previously presented) The shelving system of Claim 1 wherein the at least one outer support structure includes a set of alternating opposed cavities defined by a pair of side walls, an upper wall, and a lower wall, such that a first cavity is defined by the side walls and the upper wall, and a second cavity adjacent the first cavity is defined by the side walls and the lower wall.

24. (Previously presented) The shelving system of Claim 23 wherein the upper wall includes a first aperture, the lower wall includes a second aperture, and the second aperture is larger than the first aperture.